OPTIMAL ALLOCATION OF MULTI-PROJECT REMEDIATION RESOURCES

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EWP-WSRC Rollback Model

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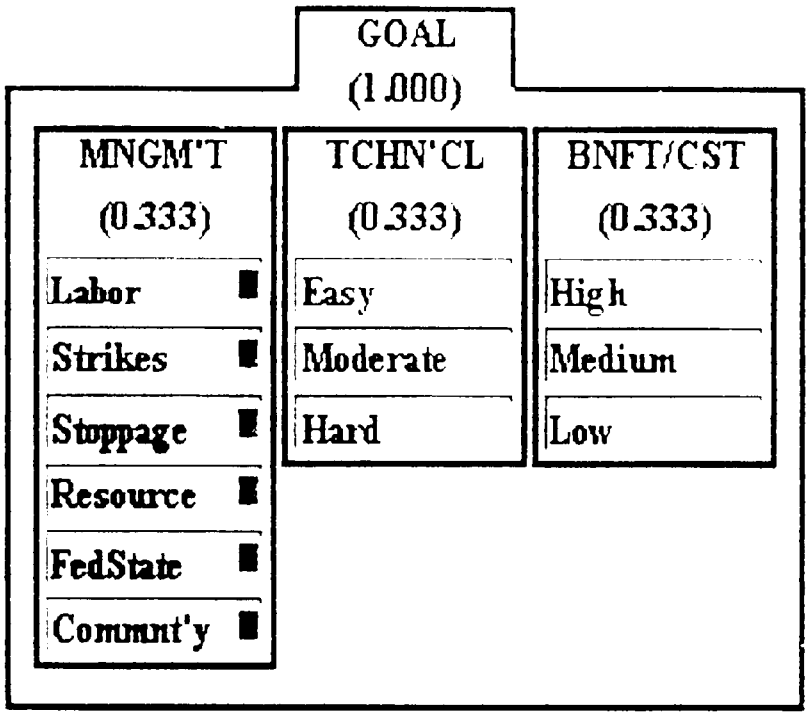
1.0 Introduction

- SRS is currently planning to save $18M/yr. by investing $3M to remediate radiologically impacted areas
- The implementation plan combines the tenents of Enhanced Work Planning (EWP) with sound engineering practice with a proven decision support software application
- DOE-SR has specified the use of the EWP-WSRC Rollback Model in the Site Wide Performance Based Incentive (PBI)

2.0 Rollback Model

- Optimal resource allocation / prioritization model
- Input consists of both return on investment (ROI) and implementation variables:
  - Technical feasibility (to perform and maintain)
  - Operational conflicts / constraints / mission
- Balances the (ROI) with the implementation variables

PRIORITIZE AND OPTIMIZE REMEDIATION PROJECT SELECTION

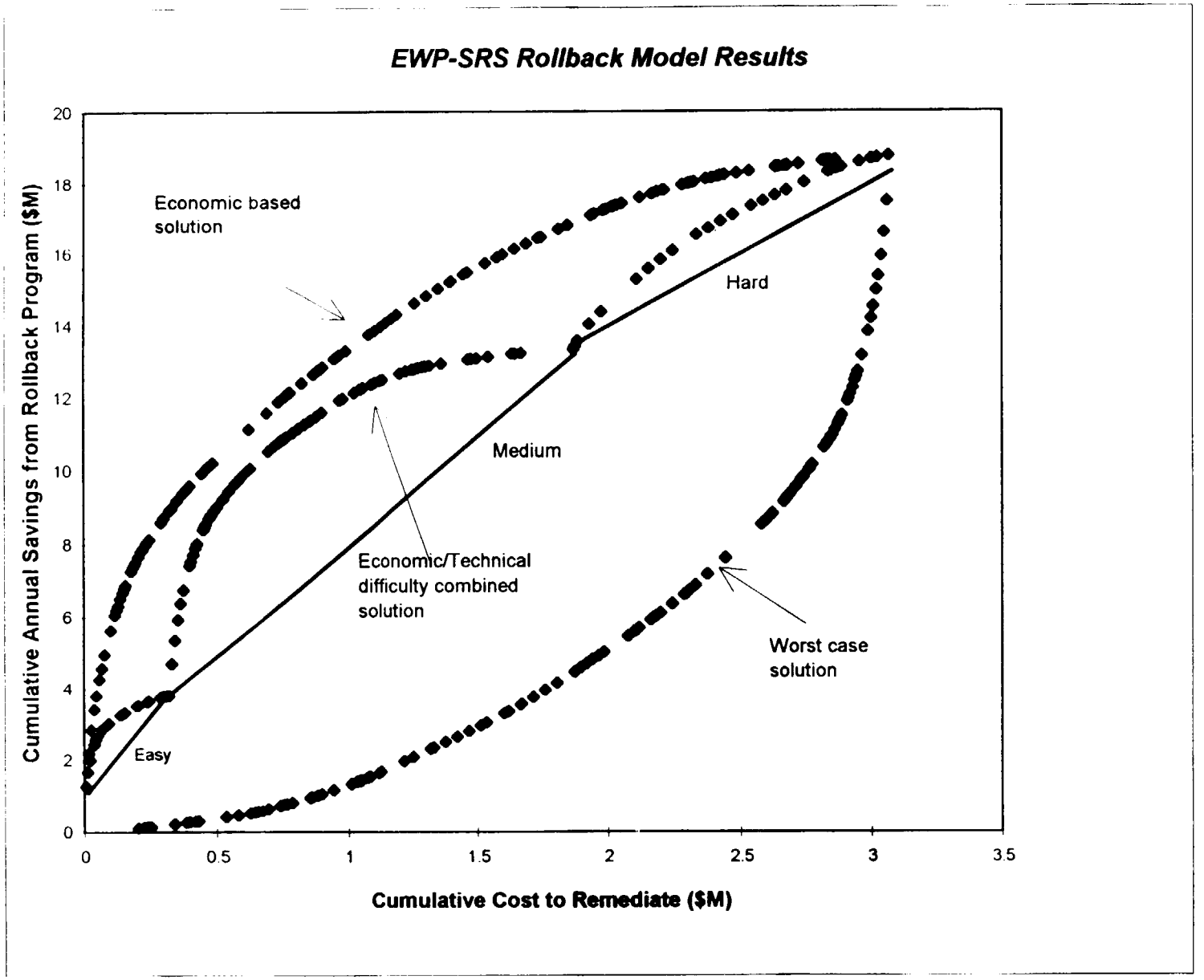


2.0 Rollback Model (cont.)

- Uses the combined proven optimization techniques:
  - Wharton School of Business: Analytical Hierarchy Process
  - Massachusetts Institute of Technology: Linear Programming
- Poduces a prioritized list of projects which maximize the benefit (savings) from the program

3.0 Model Application

- Remediation Program Information
  - Number of candidate areas 114
  - Cost to remediate range $2,256 - $203,040
  - Estimated annual savings $2,948 - $1,285,751
  - ROI Range 0.5 - 207
  - Total number of possible solutions 2.5E+186
- Goal: Determine the best approach
  - Select which projects to remediate
  - Determine the project sequence


EWP-SRS Rollback Model Results
Economic based solution
Hard
Medium
Economic/Technical difficulty combined solution
Worst case solution
Easy
Cumulative Annual Savings from Rollback Program ($M)
Cumulative Cost to Remediate ($M)
0
2
4
6
8
10
12
14
16
18
20
0
0.5
1
1.5
2
2.5
3
3.5

4.0 Summary

- An EWP-WSRC model was developed to optimize the SRS radiological remediation program
- The model balances economic information with business information
- The model provides the cumulative annual savings from rollback program versus cumulative remediation costs, with best and worst case solutions.
- The DOE-SR has specified use of the model in the PBI, and DOE-HQ has called this a Tom Peters "WOW!" tool